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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,903	02/01/2005	Stephanie Frahn	264742US0X PCT	7011

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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NERANGIS, VICKEY MARIE

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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07/27/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/522,903	<b>Applicant(s)</b> FRAHN ET AL.	
	<b>Examiner</b> Vickey Nerangis	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,6,7,11-14 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,6,7,11-13 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. All outstanding rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 6/2/2010.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 6/2/2010. In particular, claim 2 has been amended to delete the tamped density of the silica. Thus, the following action is properly made final.

### ***Claim Rejections - 35 USC § 112***

4. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

A silanized, structurally modified pyrogenic silica having a tamped density of 123-146 g/L (or 146-322 g/L) fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of a tamped density through the range of 123-146 g/L in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. While there is support for silanized, structurally modified pyrogenic silica having a tamped density of 123 and 146 g/L in Table 2 on page 9 of the specification, such examples cannot support all points in between for the entirety of the range 123-146 g/L.

***Claim Rejections - 35 USC § 103***

5. Claims 2, 6, 7, 11-13, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bock (US 6,020,419) in view of Ettlinger (US 6,022,404).

Bock discloses a coating composition comprising 0.5-25 wt % based on solids of hydrophobic, pyrogenic silica, a binder such as one of polyester, and polyacrylate, polyol (col. 4, lines 13-26 and col. 5, lines 1-29), and surface-modified pyrogenic silica and solvent such as aromatic and aliphatic hydrocarbons (col. 6, lines 17-30). Additives are also used (col. 6, line 60 to col. 7, line 13). See examples.

Bock teaches surface modification of pyrogenic silicas in order to provide for decreased agglomeration and increased stabilization (col. 3, lines 46-55) and explicitly teaches that pyrogenic silica is treated with octyltrimethoxysilane or dimethyldimethoxysilane, which provides for octylsilyl and dimethylsilyl groups on the surface of the pyrogenic silica (col. 3, lines 60-67).

Bock fails to disclose silica treated with hexadecylsilyl groups.

Ettlinger discloses surface-modified pyrogenically produced mixed oxides which are surface treated with a variety of silicon-containing compounds such as silanes and silazanes (abstract). Each of these compounds has an alkyl group bonded to the silicon which can have 1-20 carbon atoms (col. 1, lines 20-67).

Given that both Bock and Ettlinger both teach modifying the surface of a pyrogenic metal oxide with silanes and further given that Ettlinger teaches that a silane functionalized with methyl, octyl, and hexadecyl are functional equivalents, it would have been obvious to one of ordinary skill in the art to functionalize the surface of Bock's pyrogenic silica with hexadecyl

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silyl groups, absent a showing of unexpected or surprising results. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bock (US 6,020,419) in view of Ettlinger (US 6,022,404) and Hartmann (US 5,959,005).

The discussion with respect to Bock and Ettlinger in paragraph 5 above is incorporated here by reference.

Bock fails to disclose the tamped density of the pyrogenic silica.

discloses hydrophobicized pyrogenic silica and teaches that when silica is subjected to a destructing/compressing and grinding process, a silica is provided which has a tamped density of 50-300 g/L and has improved low-thickening properties, high degrees of filling and good mechanical strengths (col. 1, line 61 to col. 2, line 7). The exemplified silica has a tapped density of 188 g/L (col. 2, line 27).

Given that Bock discloses hydrophobicized pyrogenic silica and further given that hydrophobicized pyrogenic silica is given advantageous properties upon destructing/compressing and grinding processes as taught by Hartmann, it would have been obvious to one of ordinary skill in the art to subject the silica of Bock to the processes of Hartmann and thereby arrive at composition comprising a silica having tamped density like claimed.

***Response to Arguments***

Applicant's arguments filed 6/2/2010 have been fully considered but they are not persuasive. Specifically, applicant argues (A) that the tamped density of 123-146 g/L is not new matter because the exact terms do not need to be used in the original application in order to satisfy the written description requirement; (B) that there is insufficient teaching in Ettlinger to suggest the use of surface modifying compounds with hexadecylsilyl groups; and (C) that unexpected results have been established for a surface modifying agent having hexadecylsilyl groups with respect to improved scratch resistance and residual gloss without undesirable orange peel.

With respect to argument (A), while the endpoints 123 g/L and 146 g/L are supported by the specification, the points in between the range are not supported. There is no general teaching in the specification that suggests that a tamped density between 123 and 146 g/L is disclosed.

With respect to argument (B), while Ettlinger teaches a plurality of silane-based surface modifying compounds, it also teaches the equivalency of silane functionalized with hydrocarbon groups having 1-20 carbon atoms.

With respect to argument (C), the data in the specification as originally filed has been fully considered, however, it is insufficient to establish unexpected results for two reasons.

First, the differences in properties do not seem to be significant. An explanation of the margin of error in the measurements and how the differences are significant are suggested. It is noted that the differences in residual gloss appear to insignificant given that Samples S7 and S8 have higher residual gloss values than inventive S1 and S2 in Table 4. Also, both the inventive

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and comparative data (S1-S8) all have approximately the same 20° reflectometer angle before scratching without orange peel.

Second, the data is not reasonably commensurate in scope with the scope of the claims. Case law holds that evidence is insufficient to rebut a *prima facie* case if not commensurate in scope with the claimed invention. *In re Grasselli*, 713 F.2d 731, 741, 218 USPQ 769, 777 (Fed. Cir. 1983). Specifically, the exemplified amount of silica of 5 wt % and 12.5 wt % in Examples 1-3 is not reasonably commensurate with claimed 0.5-25 wt %. Case law holds that whether the unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the “objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support.” In other words, the showing of unexpected results must be reviewed to see if the results occur over the entire claimed range (i.e., scope). *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980), MPEP 716.02(d). Furthermore, the type of polymer composition is not reasonably commensurate given that the examples only include polyacrylates.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Nerangis whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

vn

/Vickey Nerangis/  
Primary Examiner, Art Unit 1796